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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,939	07/08/2004	Pascal Guerrero	RFR0041	1483
7590 07/21/2005			EXAMINER	
Valeo Inc Intellectual Property Department 4100 North Atlantic Boulevard Auburn Hills, MI 48326			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,939

Applicant(s)

GUERRERO, PASCAL

Examiner

Thai-Ba Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration:
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/08/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claims 8-11 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim 7. See MPEP § 608.01(n). Accordingly, the claims 8-11 have not been further treated on the merits.

Claim Suggestions

Applicant is suggested to revise and rewrite claims 2-7 by following:

1. In claim 2, lines 1-2, ***“A liquid/gas heat exchanger for use in the method of claim 1, characterized in that the heat exchanger is...”*** should be replaced by -- **The method for controlling the temperature of the gases entering an internal combustion engine (58) of an automotive vehicle of claim 1, wherein the heat exchanger is....--** *(for the consistency of claims).*

2. In claim 3, lines 1-2, ***“The liquid/gas heat exchanger as claimed in claim 2, characterized in that it comprises a section (14)...”*** should be replaced by -- **The method for controlling the temperature of the gases entering an internal combustion engine (58) of an automotive vehicle of claim 2, further comprising a section (14) ...--** *(for the consistency of claims).*

3. In claim 4, lines 1-3, ***“A liquid/gas heat exchanger for use in the method of claim 1, characterized in that it comprises...”*** should be replaced by -- The method for controlling the temperature of the gases entering an internal combustion engine (58) of an automotive vehicle of claim 1, further comprising...-
- *(for the consistency of claims).*

4. In claim 5, lines 1-2, ***“The heat exchanger as claimed in claim 4, characterized in that the high temperature stage...”*** should be replaced by -- The method for controlling the temperature of the gases entering an internal combustion engine (58) of an automotive vehicle of claim 4, wherein the high temperature stage ...-- *(for the consistency of claims).*

5. In claim 6, lines 1-2, ***“The heat exchanger as claimed in claim 5, characterized in that the low temperature stage...”*** should be replaced by -- The method for controlling the temperature of the gases entering an internal combustion engine (58) of an automotive vehicle of claim 5, wherein the low temperature stage ...-- *(for the consistency of claims).*

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1 and its dependent claims 2-6, 7/2 and 7/4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

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- In claim 1, line 3, the recitation of ***“particularly”*** renders the claim indefinite, since it is not clear that how particular an automobile vehicle is to be referenced by the applicant and is to be controlled with a method for controlling the temperatures of the gases entering an internal combustion engine?

- In claim 4, lines 4 and 6, the recitation of ***“can circulate”*** renders the claim indefinite, since it is not clear that under which condition of the high/low temperature stage a high/low temperature liquid can circulate; and under which condition of the high/low temperature stage a high/low temperature liquid cannot circulate. Applicant is required to identify each condition.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Amaral et al. (Pub. Number EP 1 170 498 A1).

Regarding claims 1-6, Amaral discloses a method for controlling the temperature of the gases entering an internal combustion engine (10) of an automotive vehicle, characterized:

in that the gases are circulated in a liquid/gas heat exchanger (20, 22, 30) prior to entering the internal combustion heat engine (10) (See Figure 1), and

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in that a high temperature liquid and/or a low temperature liquid (via 26, 24) is circulated in the liquid/gas heat exchanger in order to heat and/or cool the gases (via 12) as required (See Figures 2-5, Paragraphs [0015]-[0023]);

wherein the heat exchanger is a single-stage heat exchanger (20, 22, 30) and in that valve means (28, 28A, 28B, 28C, 38) are provided to circulate either a low temperature liquid, or a high temperature liquid, or a mixture of both liquids, the heat exchanger (22, 30) (See Figures 2-5, Paragraphs [0027]);

a section (14) through which the engine intake air (via 22) passes and a section (34) through which a recirculated fraction of the exhaust gases passes (See Figures 4-5);

a high temperature stage (34) in which a high temperature liquid can circulate, and a low temperature stage (22) in which the low temperature liquid can circulate, interconnecting means (38) for controlling the circulation of the high temperature and low temperature liquids as required (See Figures 4-5, Paragraph [0039]);

wherein the high temperature stage (34) comprises a section through which the engine intake air (12) passes and a section (Not Numbered) through which a recirculated fraction of the exhaust gases passes; and wherein the low temperature stage (22) also comprises a section through which a recirculated fraction of the exhaust gases passes (See Figures 4-5, Paragraphs [0031]-[0039]);

Regarding claim 7, Amaral discloses a device for managing the temperature of the gases entering a heat engine (10) of an automotive vehicle, comprising a main loop equipped with a main pump (32) for circulating a heat transfer fluid between the heat engine (10) and a main radiator for cooling at high temperature (22, 26), characterized in that it comprises a secondary loop including a secondary low temperature radiator (via 30 and 24 to 22), the device further comprising a liquid/gas radiator (22, 30, 34, or 40), and interconnecting means (28, 38) for circulating the heat transfer fluid in the liquid/gas heat exchanger as required to heat and/or cool the gases (via 12) entering the engine (10).

Claims 1, 2, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lehmann et al. (Pub. Number DE 199 24 677 A1).

Lehmann discloses a method for controlling the temperature of the gases entering an internal combustion engine (2) of an automotive vehicle, characterized:

in that the gases are circulated in a liquid/gas heat exchanger (10, 26, 27) prior to entering the internal combustion heat engine (2) (See Figures 1-2), and

in that a high temperature liquid and/or a low temperature liquid (25) is circulated in the liquid/gas heat exchanger in order to heat and/or cool the gases (via 12) as required (See Figures 2-5, Paragraphs [0015]-[0023]);

wherein the heat exchanger is a single-stage heat exchanger (20, 22, 30) and in that valve means (35) are provided to circulate either a low

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temperature liquid, or a high temperature liquid, or a mixture of both liquids, the heat exchanger (10, 26, 27) (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68);

a high temperature stage (19, 26, 37, 40) in which a high temperature liquid can circulate, and a low temperature stage (22, 45, 27, 44, 39) in which the low temperature liquid can circulate, interconnecting means (17, 18, 32, 33) for controlling the circulation of the high temperature and low temperature liquids as required (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68); and

a device for managing the temperature of the gases entering a heat engine (2) of an automotive vehicle, comprising a main loop equipped with a main pump (35) for circulating a heat transfer fluid between the heat engine (2) and a main radiator (via 26) for cooling at high temperature, characterized in that it comprises a secondary loop including a secondary low temperature radiator (26), the device further comprising a liquid/gas radiator (26, 27), and interconnecting means (17, 18, 32, 33) for circulating the heat transfer fluid in the liquid/gas heat exchanger as required to heat and/or cool the gases (via 9, 11) entering the engine (2) (See Figures 1-2, Column 2, lines 36-43 and Column 4, lines 56-68).

Conclusion

The IDS (PTO-1449) filed on July 08, 2004 has been considered. An initialized copy is attached hereto.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Nechvatal (US Patent Number 6,883,502 B2) discloses a fluid/liquid heat exchanger with variable pitch liquid passageways and engine system using the same.

- Marsh et al. (US Patent Number 6,647,934 B2) disclose a unified rotary flow control valve for an internal combustion engine cooling system.

- Marsh et al. (US Patent Number 6,604,515 B2) disclose a temperature control for a turbocharged engine.

- Valaszcai et al. (Pub. Number US 2003/0033993 A1) disclose a method and device for cooling charge air and hydraulic oil.

- Uzkan (US Patent Number 6,499,298 B2) discloses a locomotive engine cooling system and method.

- Malatto et al. (US Patent Number 6,340,006 B1) disclose internal combustion engines having separated cooling circuits for cylinder heads and engine block.

- Edmaier et al. (US Patent Number 5,394,854) disclose a cooling system for a supercharged internal combustion engine.

- Emmerling (US Patent Number 4,317,439) discloses a cooling system.

- Tholen (US Patent Number 4,273,082) discloses a cooling system for a vehicle drive.

- Tholen (US Patent Number 4,236,492) discloses an internal combustion engine having a supercharger and means for cooling charged air.

- Scherenberg (US Patent Number 3,397,684) discloses a process and an apparatus for facilitating the starting of a diesel engine and the like.
- Tomaselli et al. (Pub. Number WO 2004/044402 A1) disclose a device for the thermal regulation of the intake air for an engine and the recirculated exhaust gas emitted by the engine.
- Eastwood et al. (Patent Number GB 2 023 797 A) disclose charge air cooling systems.
- Jean Ribeton (Patent Number GB 2.001 128 A) discloses a supercharged diesel engine with a first heat exchanger having a coolant circuit fed with hot water from an engine cooling water circuit and a second heat exchanger having a coolant circuit fed with cold water.
- Ando (Patent Number JP 04060116 A) discloses a control device for intake temperature of engine with a supercharger.
- Yagisawa (Patent Number JP 61072830 A) discloses an intercooler device of a supercharger.
- Murakawi (Patent Number JP 61182419 A) discloses an intercooler apparatus of a supercharged engine.
- Hasegawa et al. (Patent Number JP 60073013 A) disclose an intake gas cooling apparatus for a supercharged engine.
- Kitayama et al. (Patent Number JP 59190426 A) disclose a supercharged air cooler.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Additionally, the new Central FAX Number **(571) 273-8300** is effective on **July 15, 2005**. The old number (703-872-9306) will be routed to the new number until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
July 19, 2005



Thai-Ba Trieu
Primary Examiner
Art Unit 3748